

Pest Alert: Mediterranean oak borer *Xyleborus monographus*



OREGON
DEPARTMENT OF
AGRICULTURE

INTRODUCTION

Mediterranean oak borer (MOB), *Xyleborus monographus*, was found in Oregon for the first time in 2018 in Multnomah County. Another single specimen was found in Marion County in 2021. During 2022, specimens were found in Clackamas and Washington Counties.

MOB is a European species of ambrosia beetle that was first collected in CA in 2017 in the Napa area. It was found damaging multiple species of oaks. It is a vector of oak wilt, *Raffaelea montetyi*.

Experiments have shown that Oregon white oak, *Quercus garryana*, is susceptible to oak wilt. Ambrosia beetles often have broad host ranges, and MOB has been found to attack many species including elm, maple, walnut, and others.

PEST STATUS

MOB and oak wilt pose a threat to native oaks. They do not have natural resistance to the pathogen and are susceptible. Native oaks in Oregon are already under stress due to drought and other factors; adding MOB and the wilt pathogen will mean that oaks in Oregon are at great risk. So far, MOB has been found with traps in Oregon, and only one infested tree has been identified.

MOB is an ambrosia beetle. Ambrosia beetles don't feed directly on wood but inoculate the wood with symbiotic fungi and other microbes. The beetles feed on the fungal growth. Most female ambrosia beetles mate with their brothers in the host tree, therefore females leave already mated and ready to infest a new tree.



MOB Boring holes riddling an oak branch.
From Bob Rabaglia, USFS.

PREVENTION

Do not move oak wood unless it has been heat treated. Inspect oak trees for planting for signs of borer holes and reject potentially infested material. Infested trees and wood should be burned, buried or heat treated. Report suspect infested oak material.

HOW DOES IT MOVE?

MOB females can fly considerable distances, possibly miles, to find a new host. MOB has been moved long distances by humans, but we don't know whether this is in live plants, solid wood packing material such as pallets, firewood, imported wine barrels, or some other wood product.

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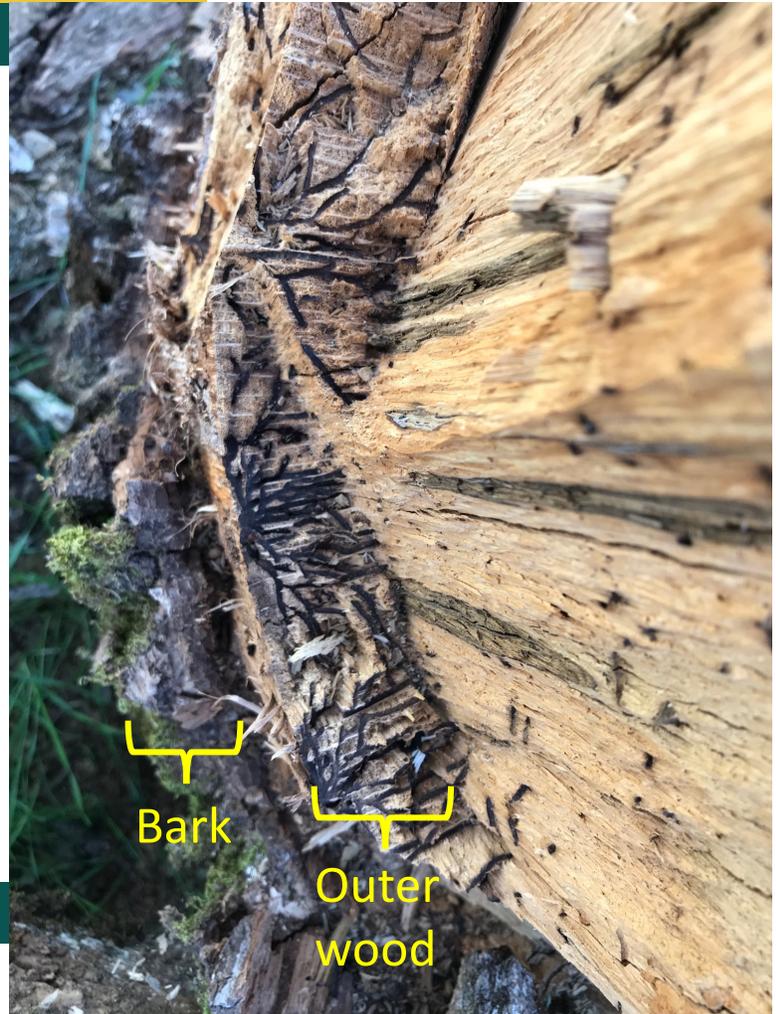
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IDENTIFICATION

It is unlikely that the beetles will be seen. They are small (about 3mm long or 1/10th of an inch), brown, cylindrical beetles. It is much more likely that their damage will be found first. The most apparent symptom are black stained galleries a little over a millimeter wide branching through oak wood (1.2-1.5mm). Trees will often be attacked at the top first, causing flagging and branch dieback. Eventually, the entire canopy may wilt and die.



Female Mediterranean oak borer. Actual length about 1/10th of an inch.



WHAT CAN YOU DO?

Notify ODA immediately, if you believe you have found Mediterranean oak borer. Early detection is vital to preventing this significant pest's spread.

Infested wood should be burned, chipped, deep buried, or heat treated.

Email: insectid@oda.oregon.gov
Phone: (503)986-4636

MORE INFORMATION

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06/2023

Black fungal stained galleries in valley oak in California.
Image by Bob Rabaglia, USFS.

REFERENCES

Ewing, C, M. Dimson, B. Nobua-Behrmann, R. Oliver, J. Kabashima. 2020. Pest alert: Mediterranean oak borer, *Xyleborus monographus*. University of California Agriculture and Natural Resources. www.mobpc.org

Ripley, K, and W. Williams. 2022. Forest Facts: Mediterranean Oak Borer *Xyleborus monographus* (Fabr.). Oregon Department of Forestry. <https://www.oregon.gov/odf/Documents/forestbenefits/fact-sheet-mediterranean-oak-borer.pdf>